

I Claim:

1. A method for timing an output of data packets from a network node, which comprises, in one cycle:

determining a current buffer memory fill level of a queue of a network node and thereby obtaining a determined current buffer memory fill level;

comparing the determined current buffer memory fill level with a predetermined lower limit for a buffer memory fill level; and

assigning an output time at which a data packet that is located in the queue will be output from the network node, in dependence on a result of the comparing step.

2. The method according to claim 1, which comprises:

in an nth cycle, in the assigning step, determining the output time  $T_a(n)$  in accordance with  $T_a(n) = T_s(n) + L/R$ , where:

$T_s(n)$  is a reference time allocated to the nth cycle,

$L$  is a packet length of the data packet to be assigned,

$R$  is a bit rate at an output of the network node, and

a value of  $R$  depends on the result of the comparing step.

3. The method according to claim 2, wherein the reference time  $T_s(n)$  is an output time  $T_a(n-1)$  of a data packet output in a preceding  $n-1$ th cycle.

4. The method according to claim 3, which comprises:

setting  $R$  to a bit rate  $R_{\max}$  if the determined current buffer memory fill level is greater than the predetermined lower limit; and

otherwise, setting  $R$  to a bit rate  $R_{\min}$  that is less than  $R_{\max}$ .

5. The method according to claim 2, which comprises:

setting  $R$  to a bit rate  $R_{\max}$  if the determined current buffer memory fill level is greater than the predetermined lower limit; and

otherwise, setting  $R$  to a bit rate  $R_{\min}$  that is less than  $R_{\max}$ .

6. The method according to claim 5, wherein  $R_{\max}$  is a maximum

permissible bit rate at the output of the network node.

7. The method according to claim 1, which comprises:

comparing the determined current buffer memory fill level with  
a predetermined upper limit for the buffer memory fill level;  
and

if the current buffer memory fill level is greater than the  
upper limit, then discarding the data packet to be assigned.

8. A network node configuration, comprising:

a network node, including:

at least one queue with a buffer memory for temporarily  
storing data packets;

determining means for determining a current fill level of  
the buffer memory and thereby obtaining a determined  
current fill level; and

a control device for controlling an output of a data  
packet in dependence on the determined current fill level  
of the buffer memory;

said control device configured for:

using the determining means to obtain the determined current fill level;

comparing the determined current fill level with a predetermined lower limit; and

assigning an output time at which a data packet that is located in the queue will be output from the network node, in dependence on a result of the comparing step.

9. The network node according to claim 8, wherein said network node is selected from the group consisting of a router and a gateway.

10. The network node according to claim 8, wherein said network node is selected from the group consisting of a switch, a bridge, and a hub.

11. A network portion, comprising:

a plurality of network nodes, each one of said plurality of said network nodes, including:

at least one queue with a buffer memory for temporarily

storing data packets;

determining means for determining a current fill level of the buffer memory and thereby obtaining a determined current fill level; and

a control device for controlling an output of a data packet in dependence on the determined current fill level of the buffer memory;

said control device configured for:

using the determining means to obtain the determined current fill level;

comparing the determined current fill level with a predetermined lower limit; and

assigning an output time at which a data packet that is located in the queue will be output from said one of said plurality of said network nodes, in dependence on a result of the comparing step.

12. The network portion according to claim 11, wherein the predetermined lower limit is used by said control device of each one of said plurality of said network nodes.

13. The network portion according to claim 11, wherein:

a given predetermined upper limit is used by said control device of each one of said plurality of said network nodes; and

said control device of each one of said plurality of said network nodes compares the given predetermined upper limit with the current fill level of said buffer memory.

14. The network portion according to claim 11, wherein:

each one of said plurality of said network nodes has an output for outputting the data packet; and

said control device of each one of said plurality of said network nodes uses a given maximum bit rate that is defined at said output of said one of said plurality of network nodes.